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**HIGH-EFFICIENCY FUEL PROCESSOR VIA STEAM
INTEGRATION FROM A WATER-COOLED STACK**

ABSTRACT OF THE DISCLOSURE

Improving fuel processor efficiency via steam integration from a liquid-cooled high-temperature proton exchange membrane fuel cell (HT-PEMFC) stack is disclosed. A portion of the water used for stack cooling is re-condensed via ambient air and recycled to the HT-PEMFC stack. The remaining portion is diverted to the fuel processor to meet the fuel processor's steam needs. The entire fuel processor heat therefore is devoted to superheating the steam, and in some cases the fuel and/or air used in the reforming process.